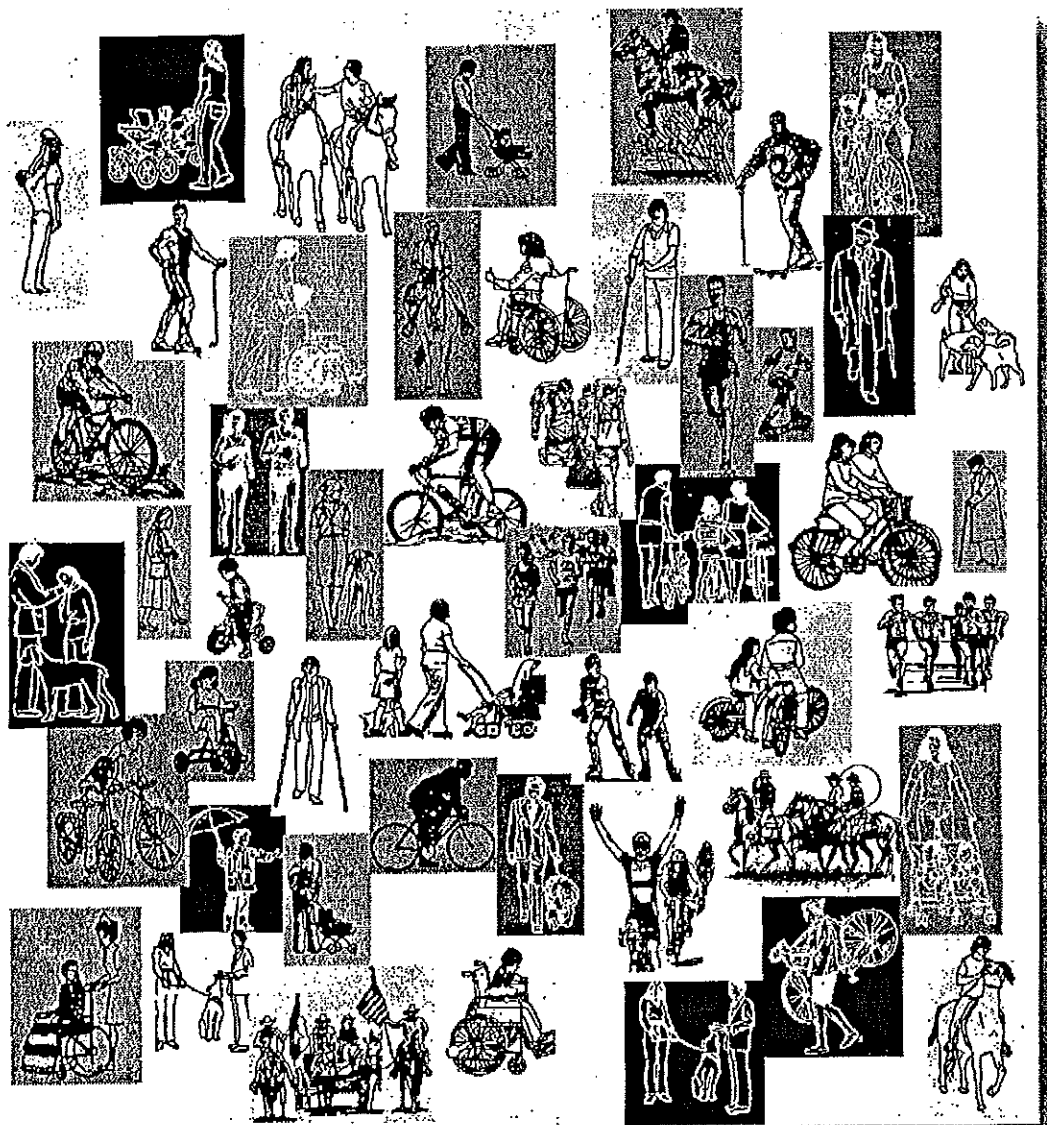




Trail Design Guidelines



Uniform Interjurisdictional Trail Design, Use, and Management Guidelines

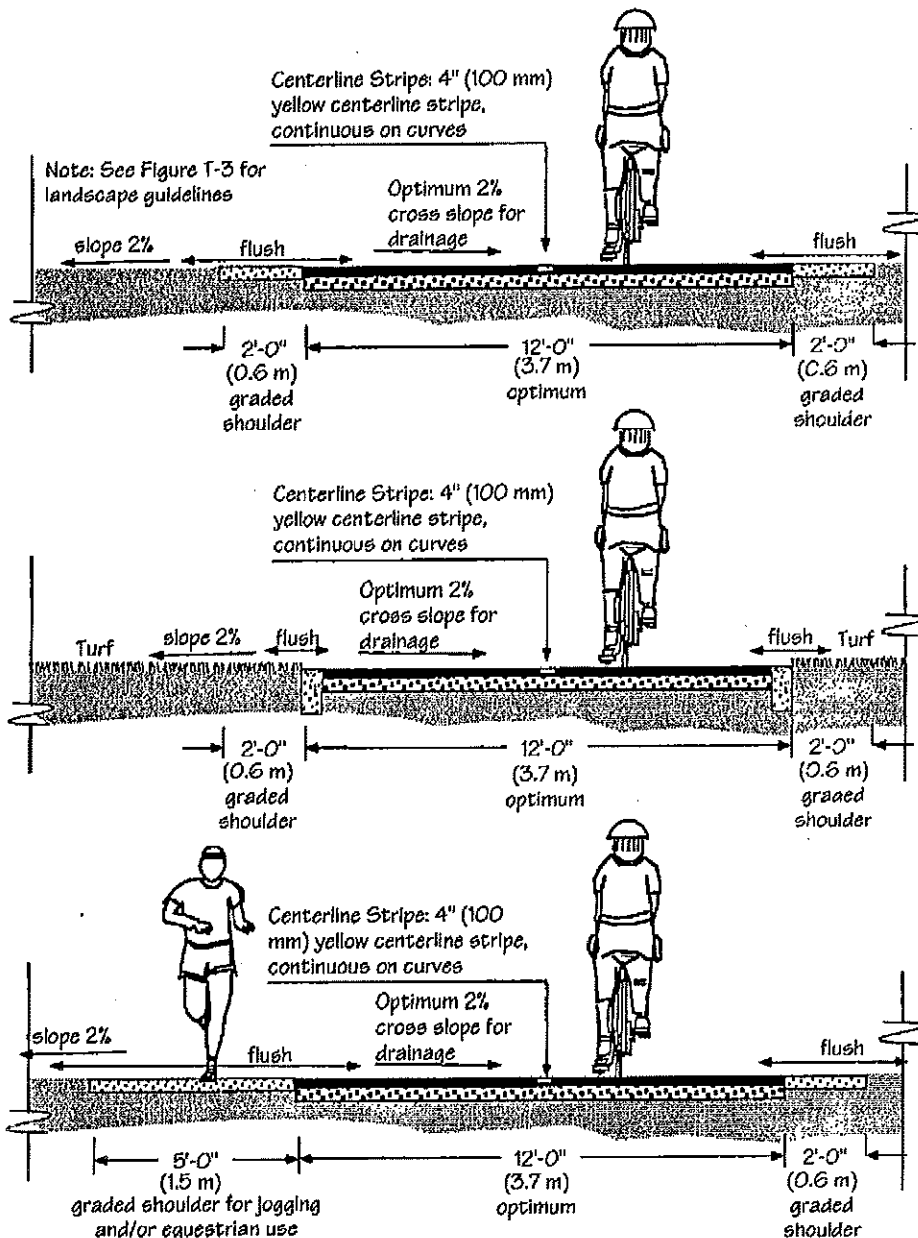
Santa Clara County

Interjurisdictional Trails Committee

A Program of the Santa Clara County Trails Master Plan

Urban Shared-Use Trail Sections T-1

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Paved Trail
(See Figure T-2, A and B)
Section A

Paved Trail
in Turf Area
(See Figure T-2, C)
Section B

Combination Paved Trail and
Unpaved Jogging Trail
(See Figure T-2, A and B)
Section C

Related Policies: UD-2.2.2; UD-3.5.4; UD-4.11.1; UM-3.4

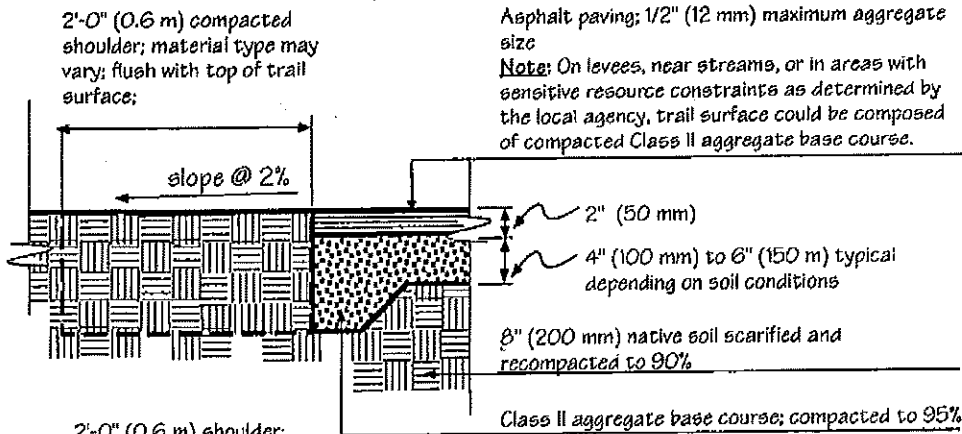
Notes:

- For natural-surfaced trail cross-sections and urban Shared-Use Trails that include an equestrian shoulder, refer to the 1995 Countywide Trails Master Plan, Figures G-2 and G-3.
- Trail shoulders: 2' (0.6 m) graded shoulder; 2' (0.6 m) minimum vegetation clearance; prune all brush over 12" (0.3 m) in height and 1/2" (12 mm) dia. that extends into trailway.
- Centerline stripes should be used along trails. Solid centerline stripes should be used where there is heavy use, on curves greater than 100 feet long (30.5 m) with restricted sight distances, and where the path is unlighted and nighttime riding is expected. Dashed stripes should be used where there is heavy use but only where sight distances permit.
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

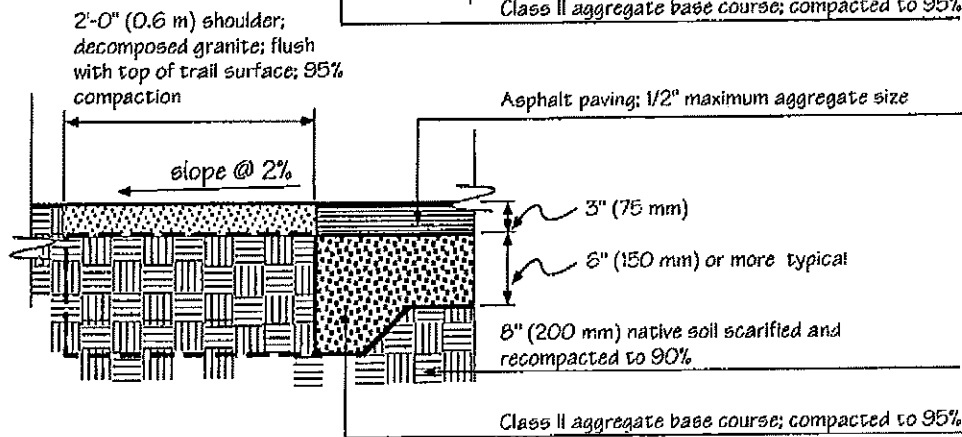
T-2 Trail Edge Details

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Co-use with
Light Trucks

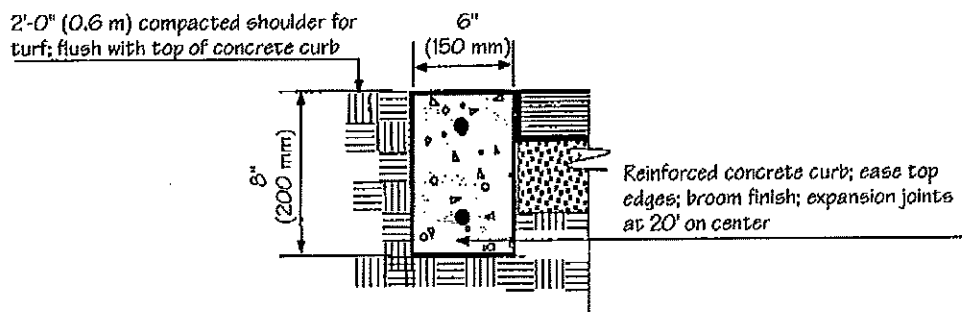
**Section
A**



Co-use with
Emergency and Fire
Vehicles

**Section
B**

Note: design should
accommodate H-20 loading



Curb
Adjacent to
Irrigated Turf

**Section
C**

Related Policies:

Notes:

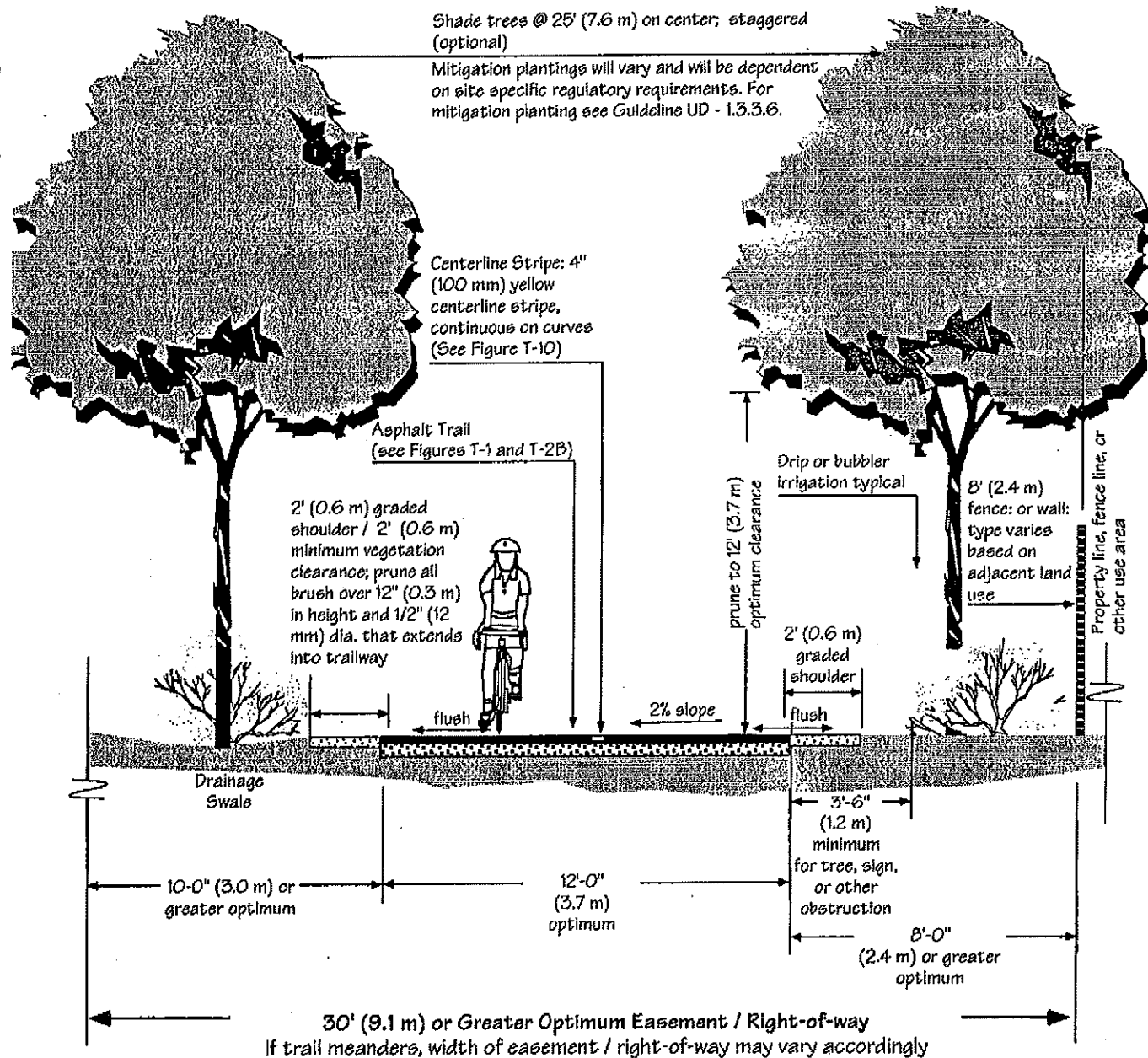
- As soil conditions vary through Santa Clara County, soil tests should be made on a case-by-case basis prior to trail design.
- The cross-section design of any trail located on a flood-control levee should be developed to a standard to accommodate Santa Clara Valley Water District vehicle access requirements.

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

Urban Trail with Adjacent Landscaping T-3

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



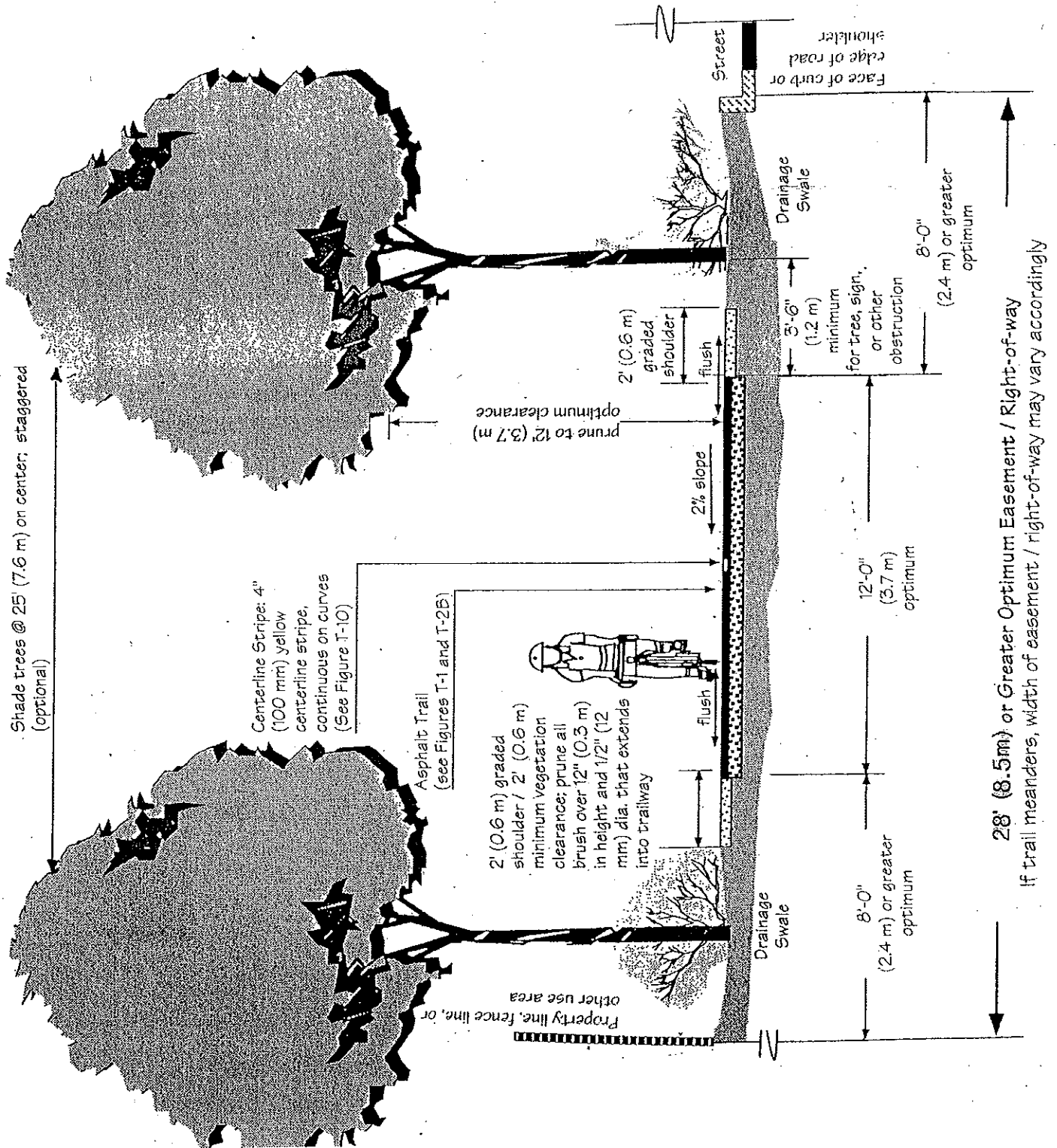
Related Policies: UD-2.2.2; U6-3.3; UD-1.1.4; UD-4.11.1; UM-3.3

Notes:

- Maximum grade of 5% is optimum; 8.33% maximum for short sections.
- Centerline stripes should be used along trails. Solid centerline stripes should be used where there is heavy use, on curves greater than 100 feet long (30.5 m) with restricted sight distances, and where the path is unlighted and nighttime riding is expected. Dashed stripes should be used where there is heavy use but only where sight distances permit.

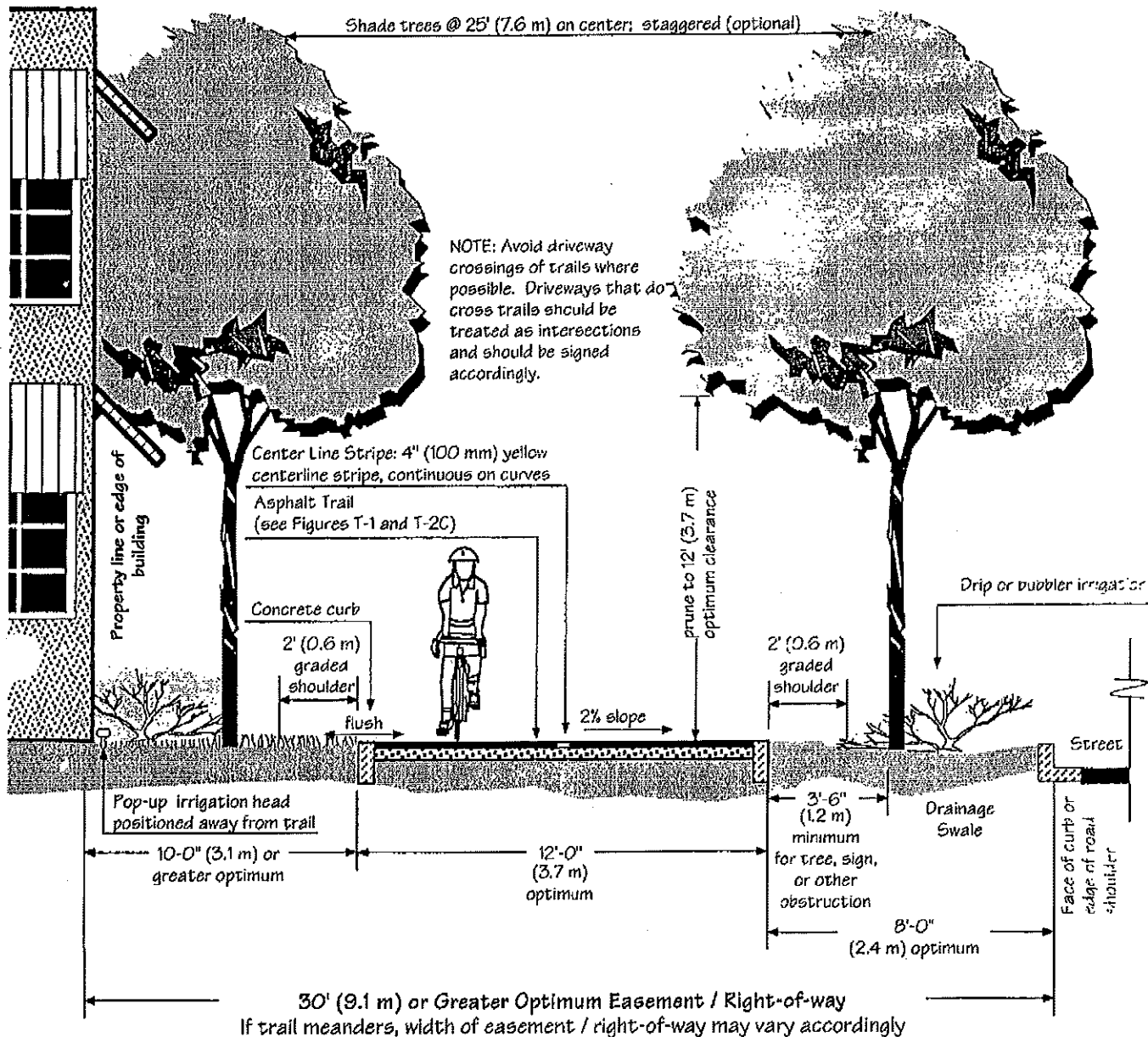
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999



T-4 Trail Adjacent to Street with Landscaping

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Related Policies: UD-1.1.1; UD-1.1.2; UD-2.2.2; UD-3.5.6; UD-4.11.1; UM-3.3; UM-3.4

Notes:

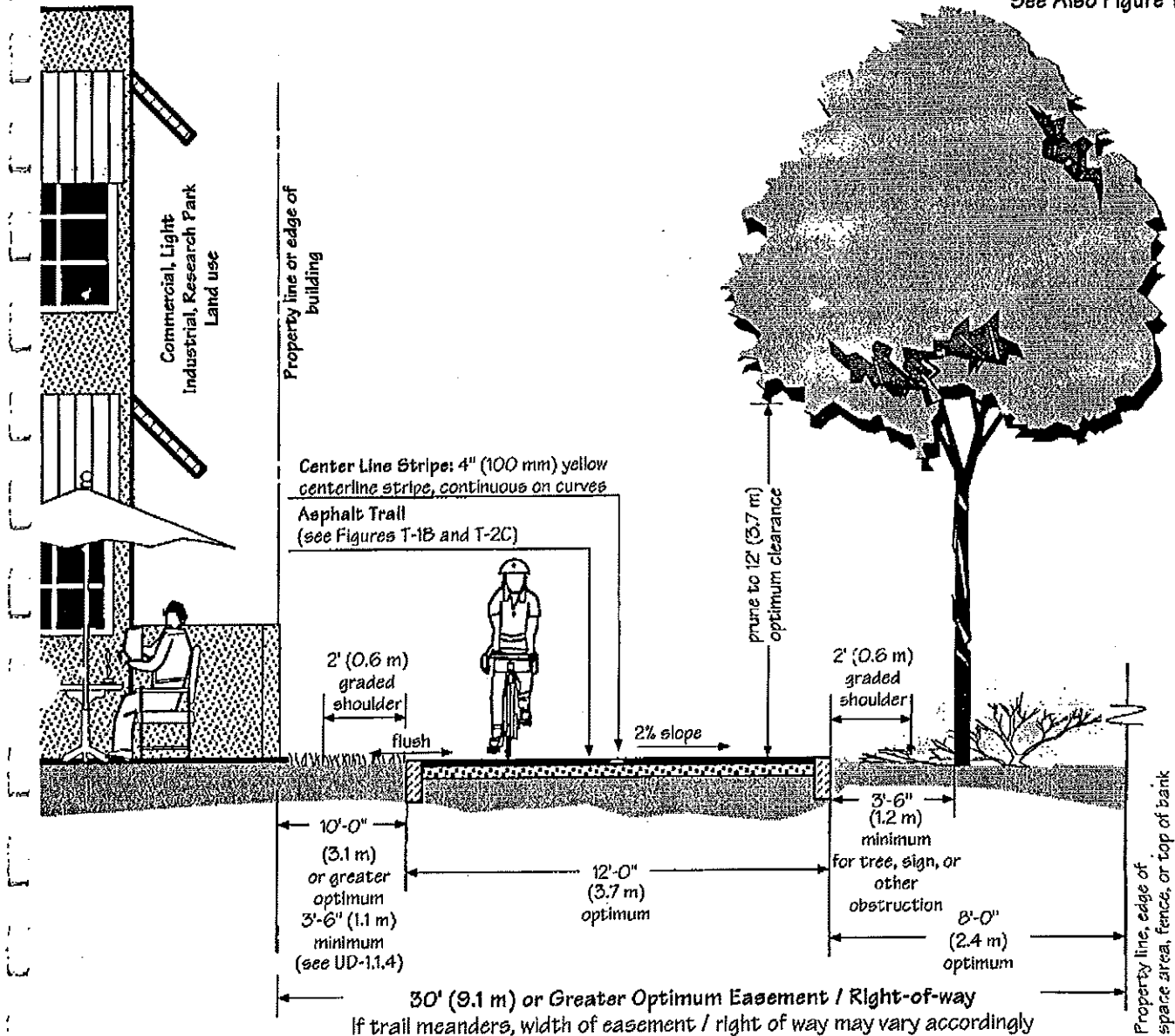
- Maximum grade of 5% is optimum; 8.33% maximum for short sections
- Trail shoulders: 2' (0.6 m) graded shoulder / 2' (0.6 m) minimum vegetation clearance; prune all brush over 12' (3.7 m) in height and 1/2" (12 mm) dia. that extends into trailway.
- Centerline stripes should be used along trails. Solid centerline stripes should be used where there is heavy use, on curves greater than 100 feet long (30.5 m) with restricted sight distances, and where the path is unlighted and nighttime riding is expected. Dashed stripes should be used where there is heavy use but only where sight distances permit.
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

Trail Adjacent to Creek, Park, or Open Space **T-5A**

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

See Also Figure T-5B



Related Policies: UD-1.1.1; UD-1.1.4; UD-2.2.2; UD-3.5.6; UD-4.11.1; UM-3.4

Notes:

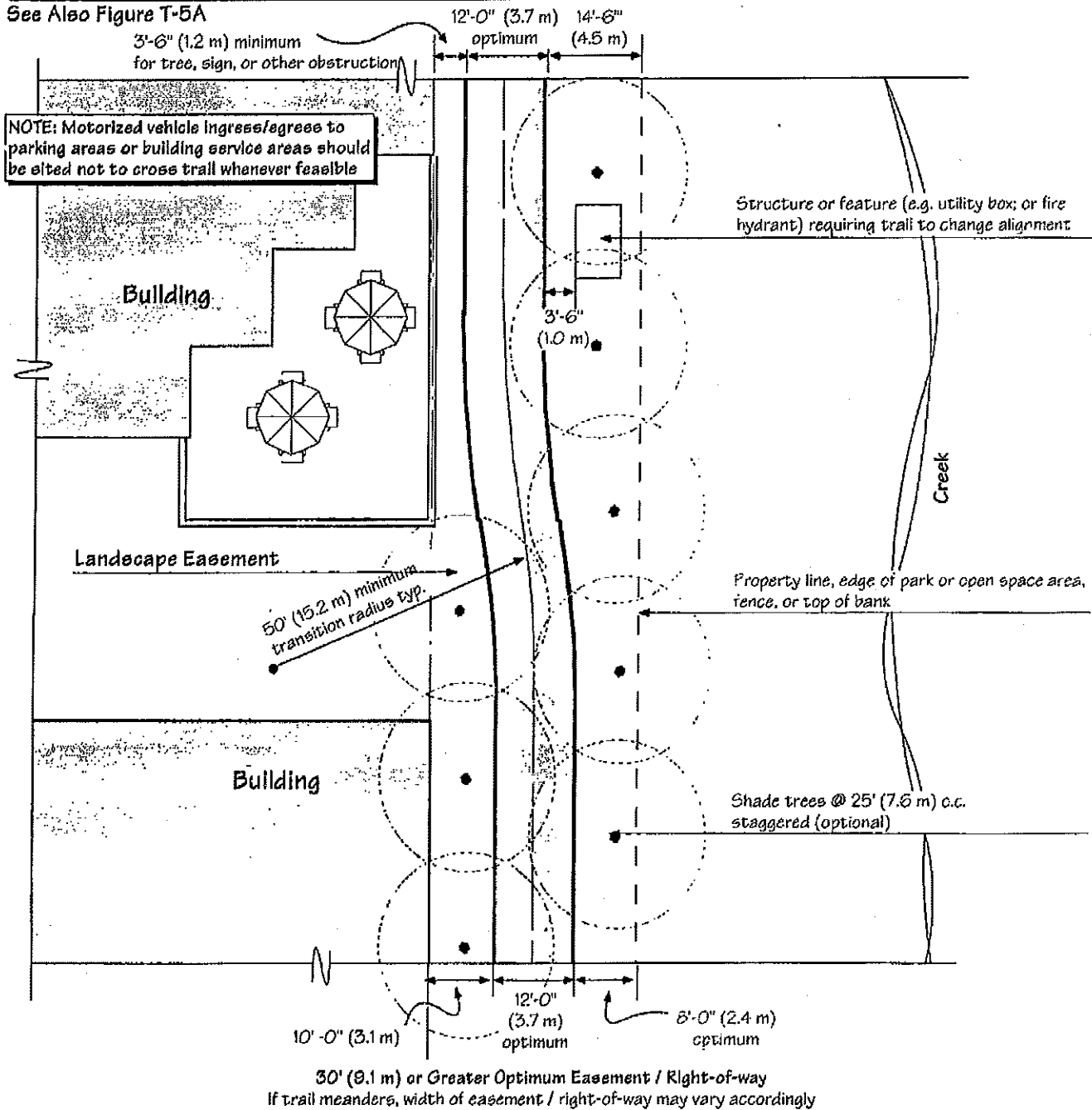
- Maximum grade of 5% is optimum; 8.33% maximum for short sections.
- Trail shoulders: 2' (0.6 m) graded shoulder / 2' (0.6 m) minimum vegetation clearance; prunes all brush over 12" (0.3 m) in height and 1/2" (12 mm) dia. that extends into trailway.
- Centerline stripes should be used along trails. Solid centerline stripes should be used where there is heavy use, on curves greater than 100 feet long (30.5 m) with restricted sight distances, and where the path is unlighted and nighttime riding is expected. Dashed stripes should be used where there is heavy use but only where sight distances permit.
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

T-5B Plan: Trail Adjacent to Creek, Park, or Open Space

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

See Also Figure T-5A



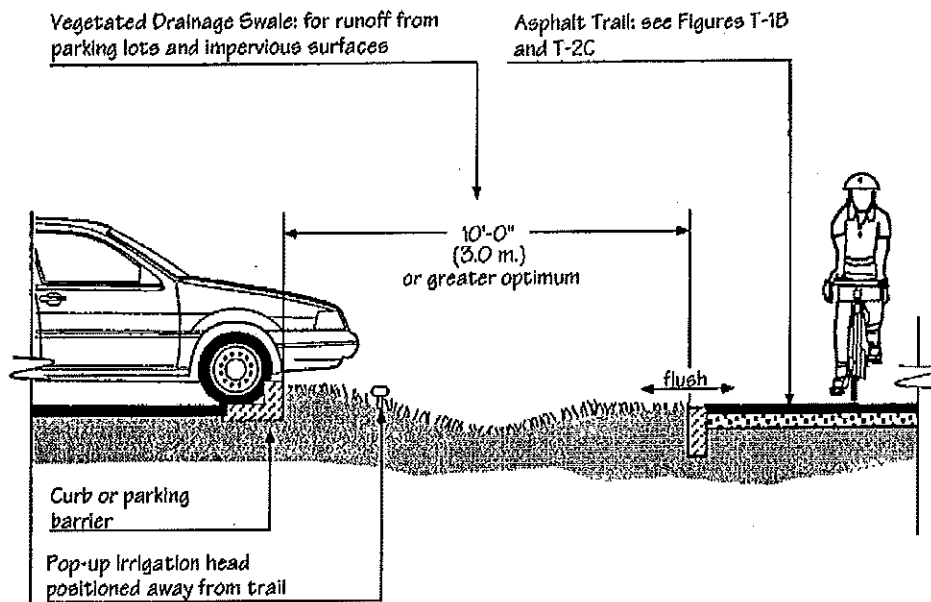
Related Policies: UD-1.1.1; UD-1.1.4; UD 2.2.2; UD-4.11.1

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

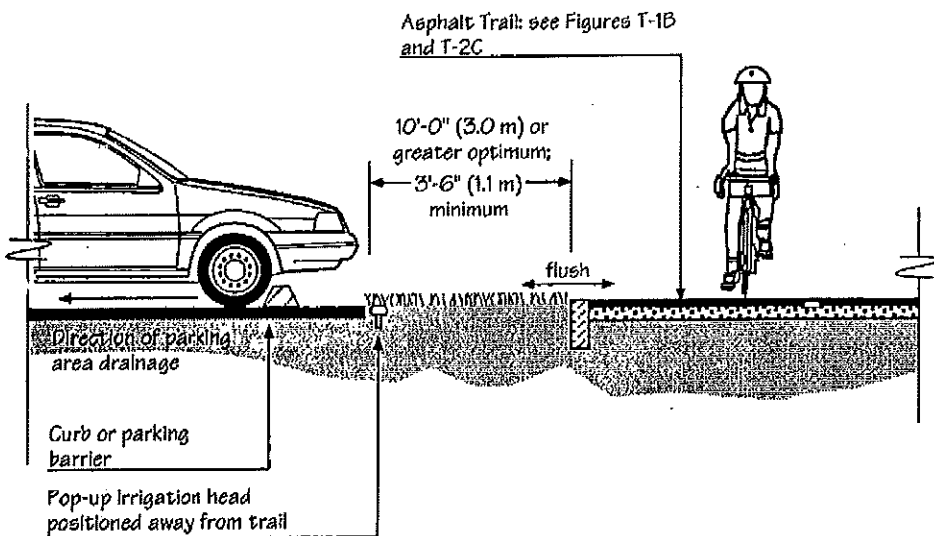
Trail and Adjacent Parking T-6

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Adjacent to Parking
with Vegetated Swale

Section
A



Adjacent to Parking
without Vegetated Swale

Section
B

Related Policies: UD-1.1.1; UD-3.5.6; UD-4.11.1; UM-3.4

Notes:

- Maximum grade of 5% is optimum; 8.33% maximum for short sections
- Trail shoulders: 2' (0.6 m) graded shoulder / 2' (0.6 m) minimum vegetation clearance; prune all brush over 12" (0.3 m) in height and 1/2" (12 mm) dia. that extends into trailway

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

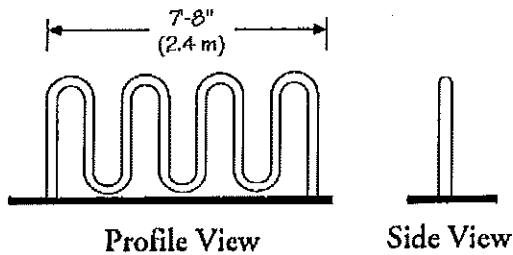
Final: April 15, 1999

T-7 Bicycle Parking Adjacent to Trail

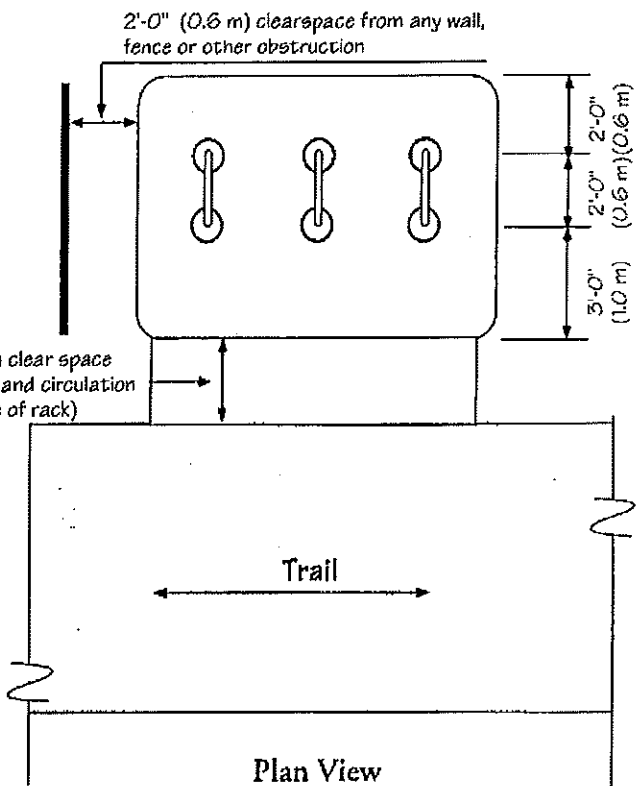
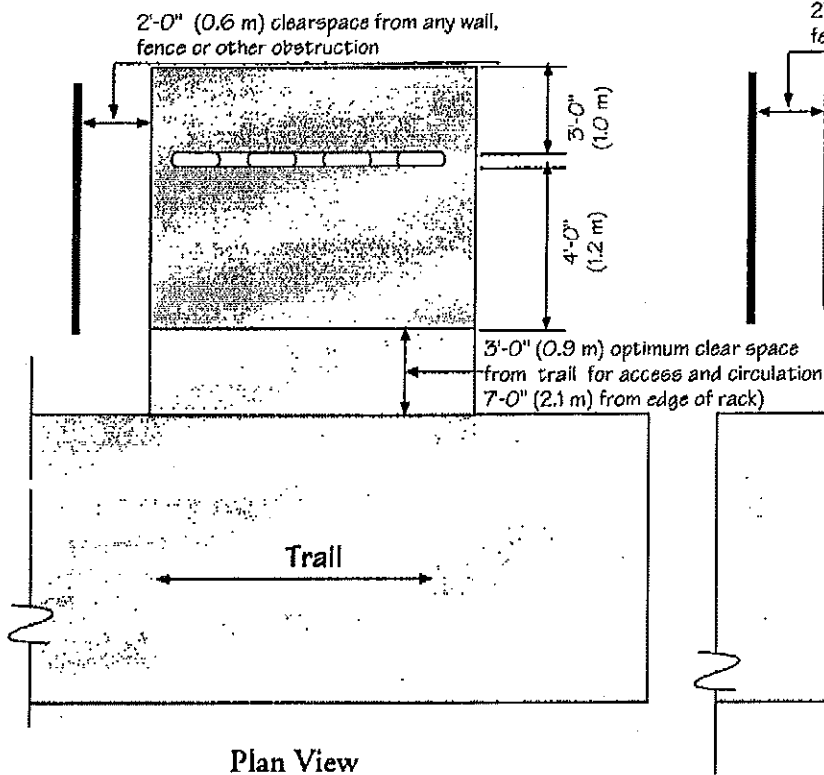
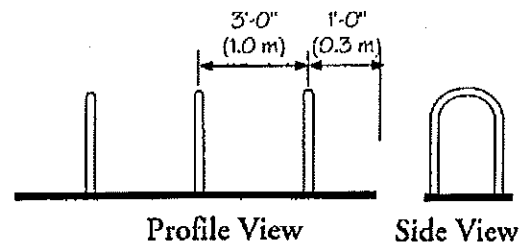
Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

note: Rack dimensions for reference only

"Wave" Style Bicycle Rack



"Inverted U" Style Bicycle Rack



Source: Wilbur Smith Associates

Related Policies:

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

Trail Intersections T-8

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

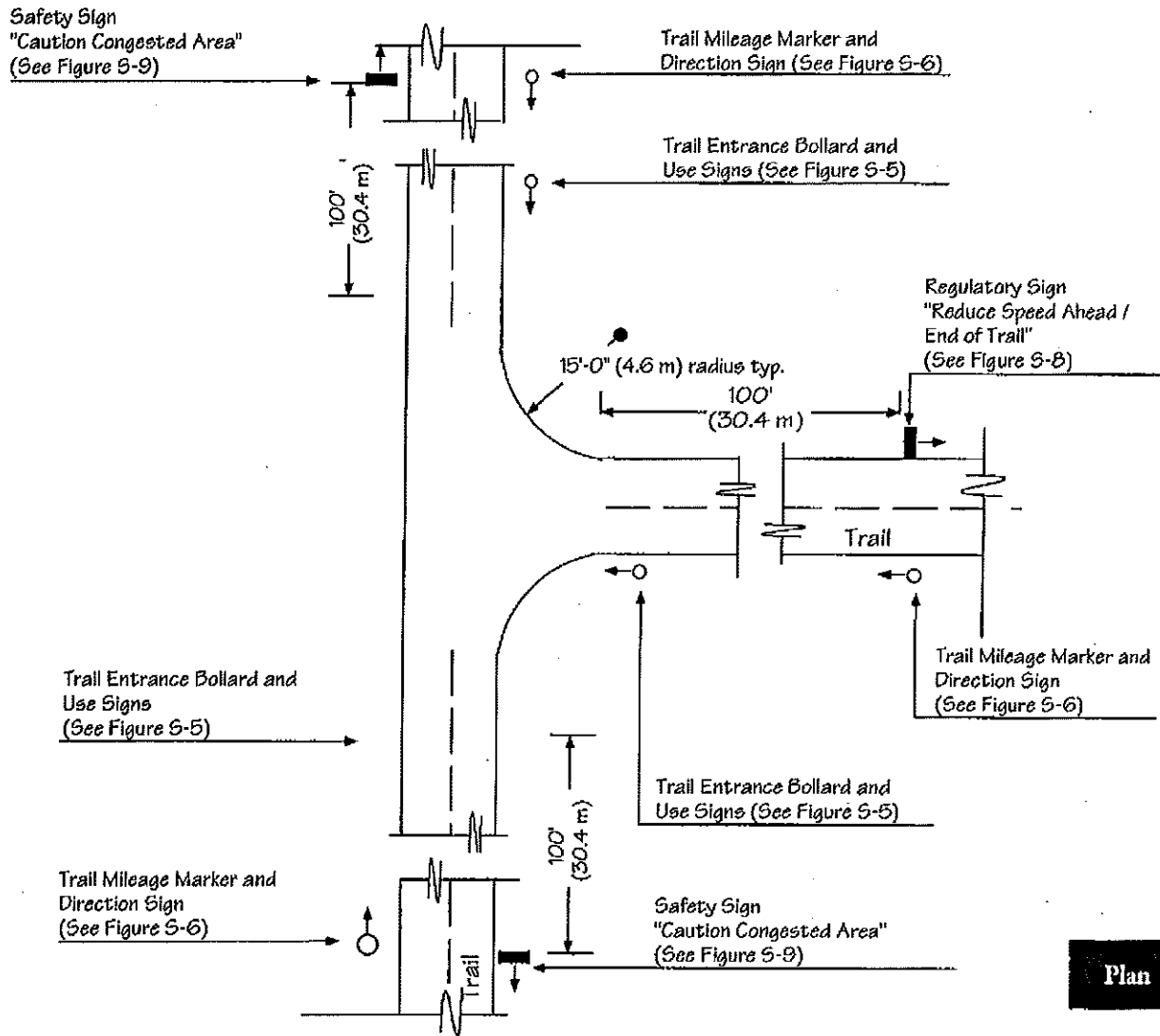
Legend



Sign
Direction of Sign



Trail Post
Direction of Markings



Plan

Related Policies: UD-1.1.6.1

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 16, 1999

'T-9' Trail Ending At Parking Area or Cul-de-Sac

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

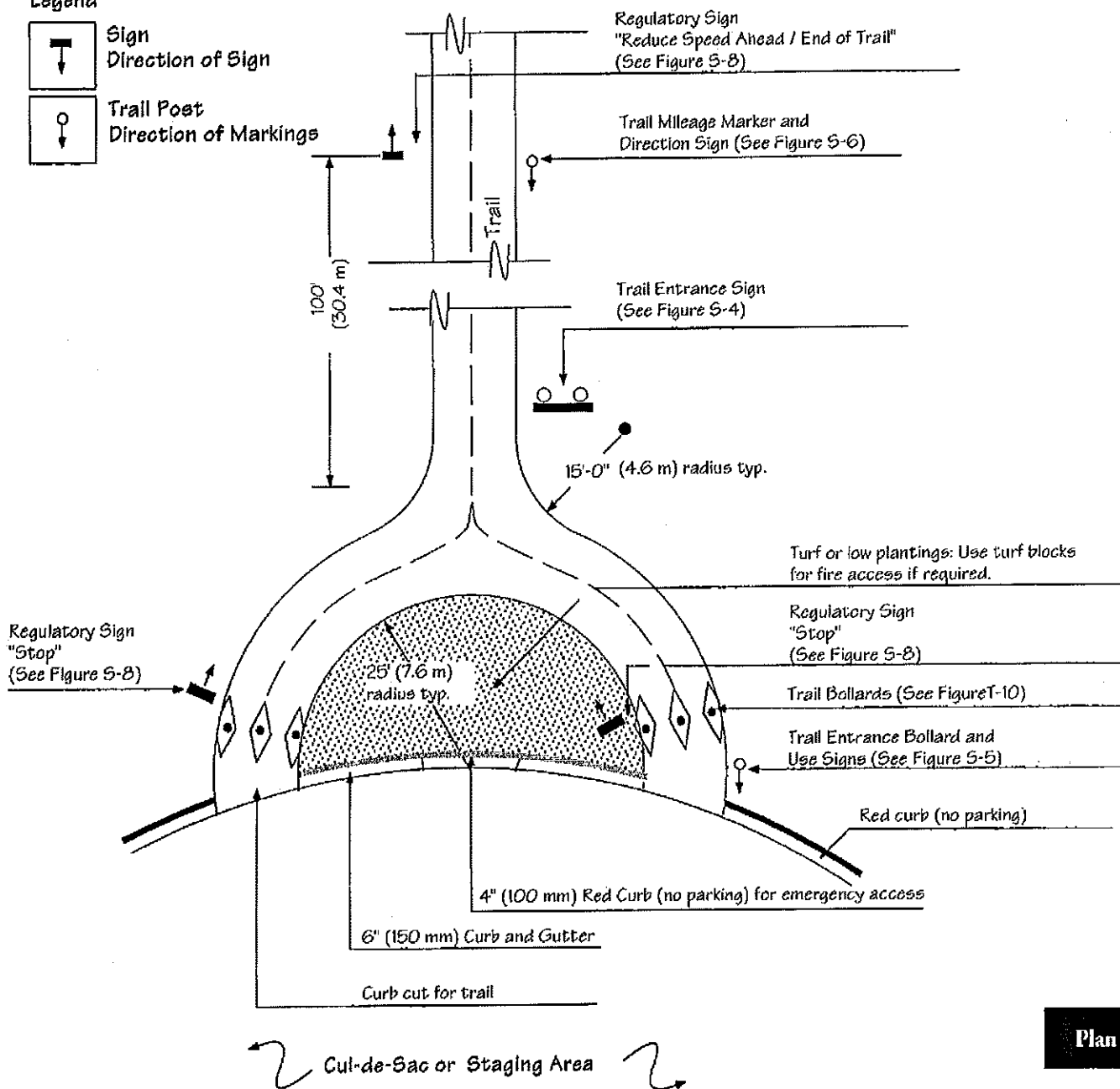
Legend



Sign
Direction of Sign



Trail Post
Direction of Markings



Plan

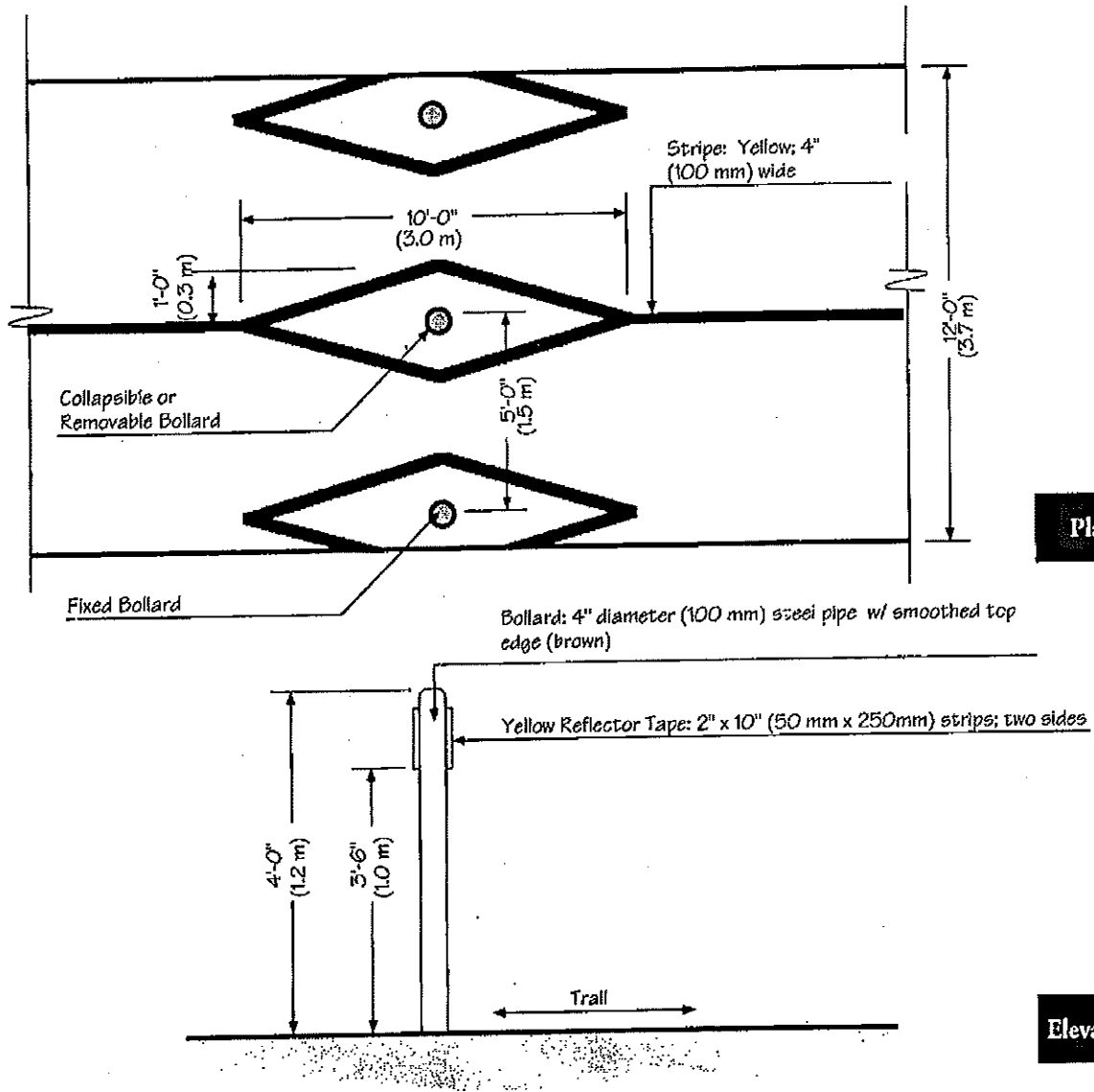
Related Policies: UD-4.2.1

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

Typical Trail Barrier Posts **T-10**

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Related Policies: UD-4.2.1; UD-4.11.1

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

T-11 Trail Maintenance Gate

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

Legend



Sign
Direction of Sign



Trail Post
Direction of Markings

Regulatory Sign

"End of Trail"

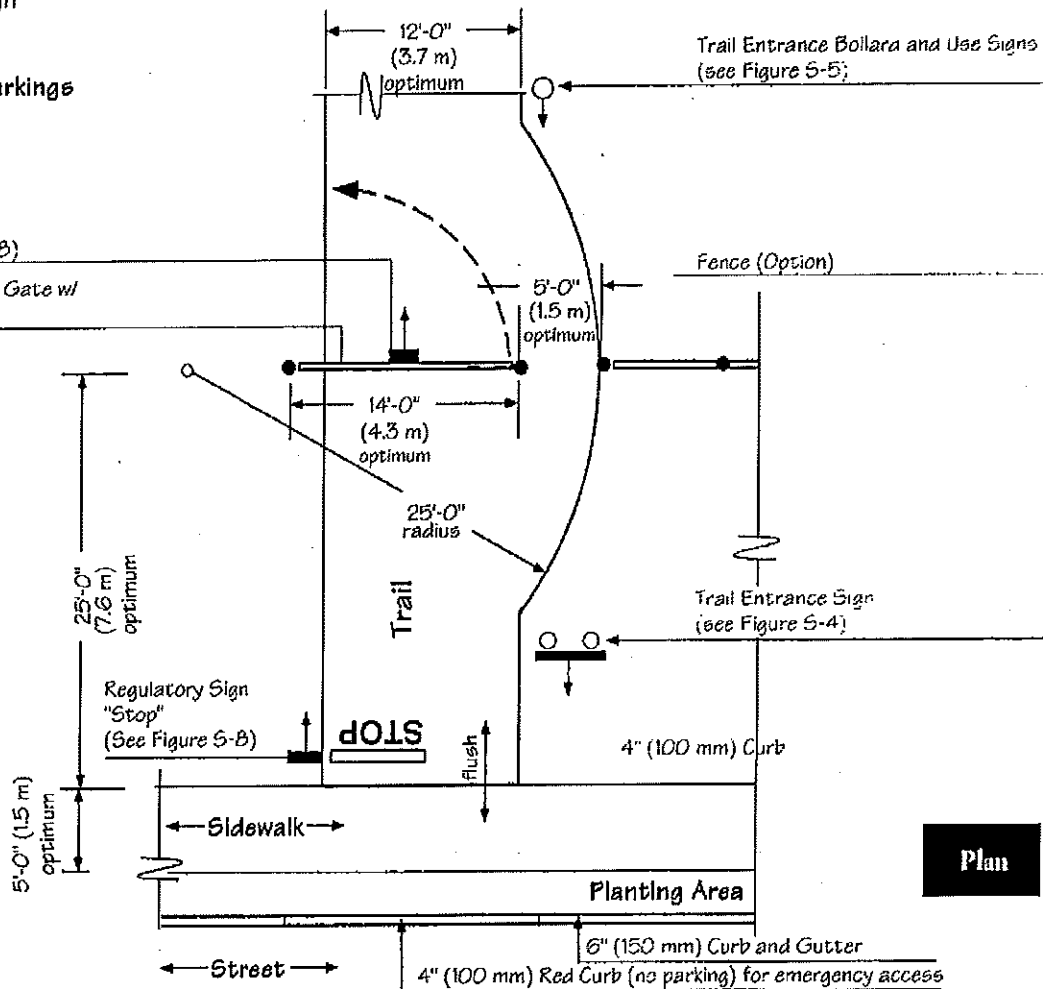
Place on gate (see Figure S-8)

Emergency Access Vehicular Gate w/
universal combination lock



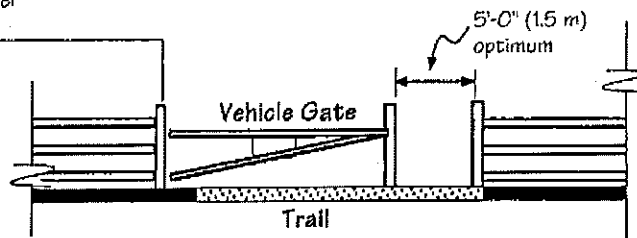
Regulatory Signs

"Reduce Speed Ahead / End of Trail"
(see Figure S-8)



Plan

5' (1.5 m) High; 8" (200 mm) Diameter Steel
Pipe Post w/ smoothed top edge (brown)



Elevation

Related Policies: UD-4.2.1; UD-4.2.3

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

Major Street / Signalized Street Intersection T-12A

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

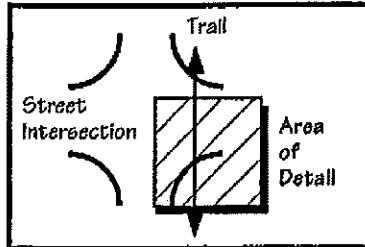
Legend



Sign
Direction of Sign



Trail Post
Direction of Markings



SIGNALIZED INTERSECTION

Push-button (to meet ADA requirements) activator for traffic signal.

Pedestrian Crosswalk

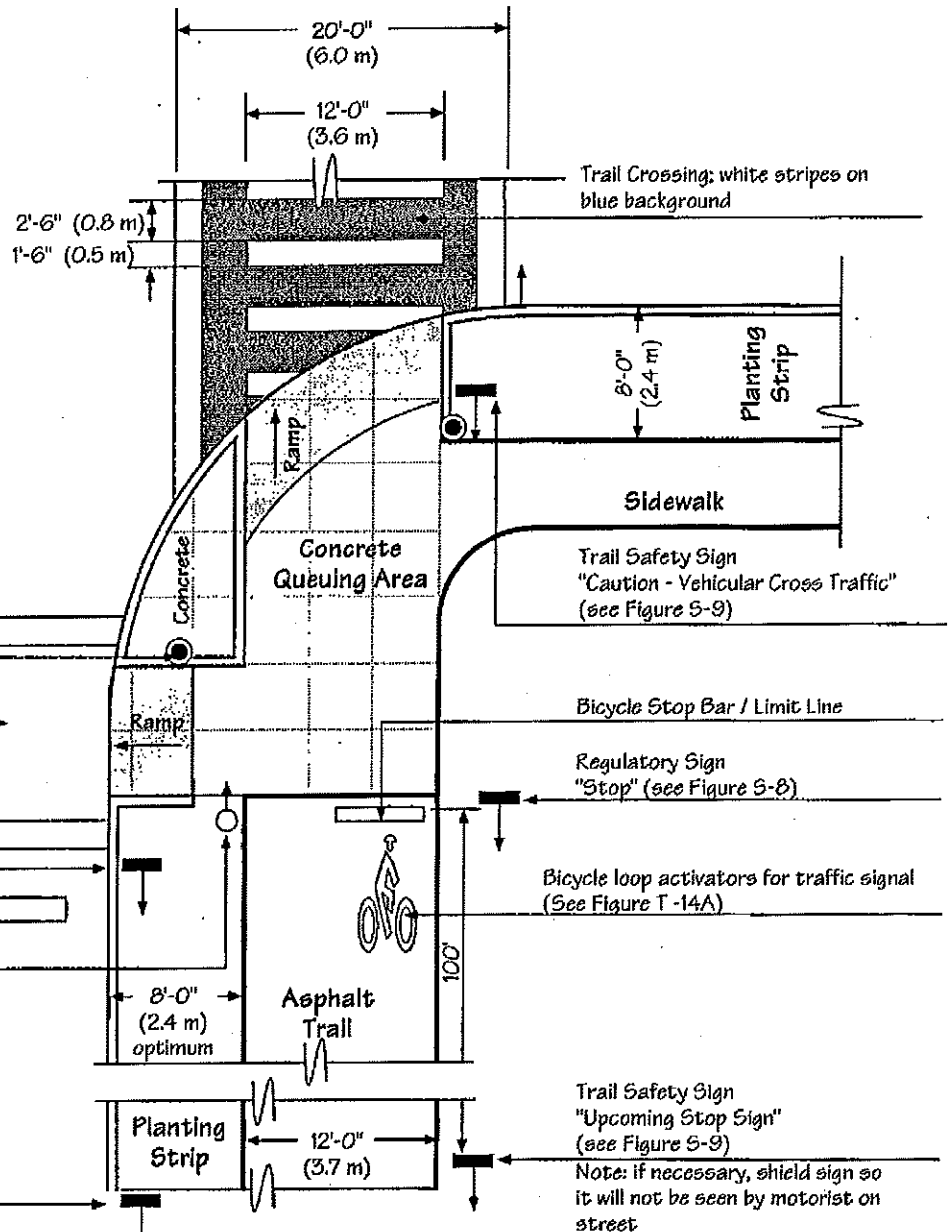
Roadway Regulatory Sign
"No Right Turn On Red"
and Roadway Caution Sign
"Yield to Bikes" (see Figure S-10)

Trail Entrance Bollard and
Use Signs
(see Figure S-5)

Caution Sign
"Trail Crossing Ahead - Look Right"
(see Figure S-10)



Note: on opposite side of intersection place Regulatory Sign
"No Turn On Red"
(see Figure S-10)



Trail Safety Sign
"Upcoming Stop Sign"
(see Figure S-9)

Note: if necessary, shield sign so it will not be seen by motorist on street

Related Policies: UD-1.1.5; UD-4.16; UD-4.17

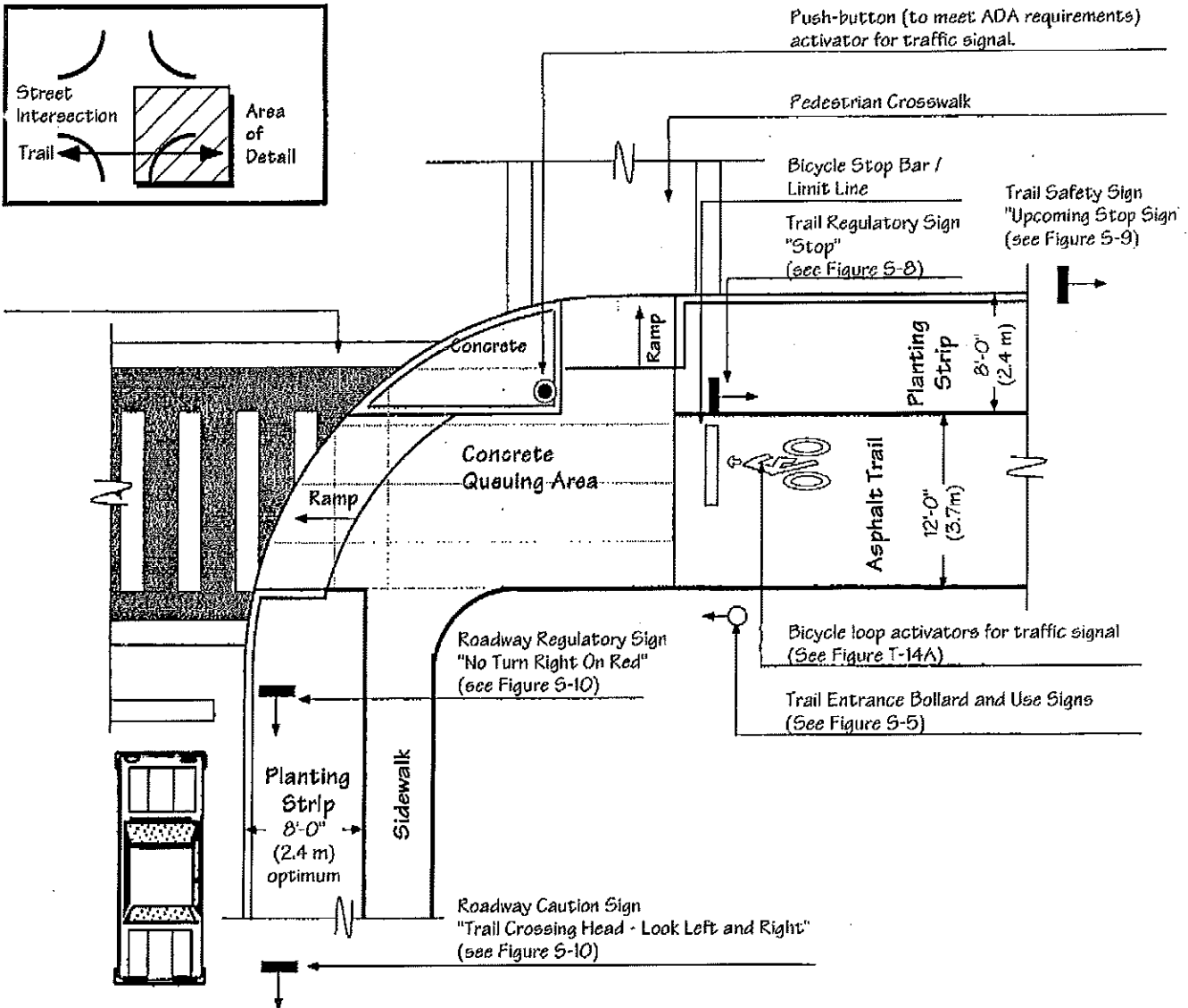
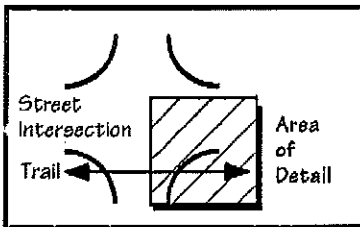
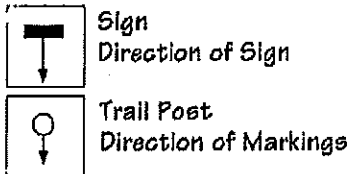
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

T-12B Major Street / Signalized Street Intersection

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

Legend



Related Policies: UD-1.1.5; UD-4.16; UD-4.17

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

Trail / Major Street Intersection - Signalized T-13A

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

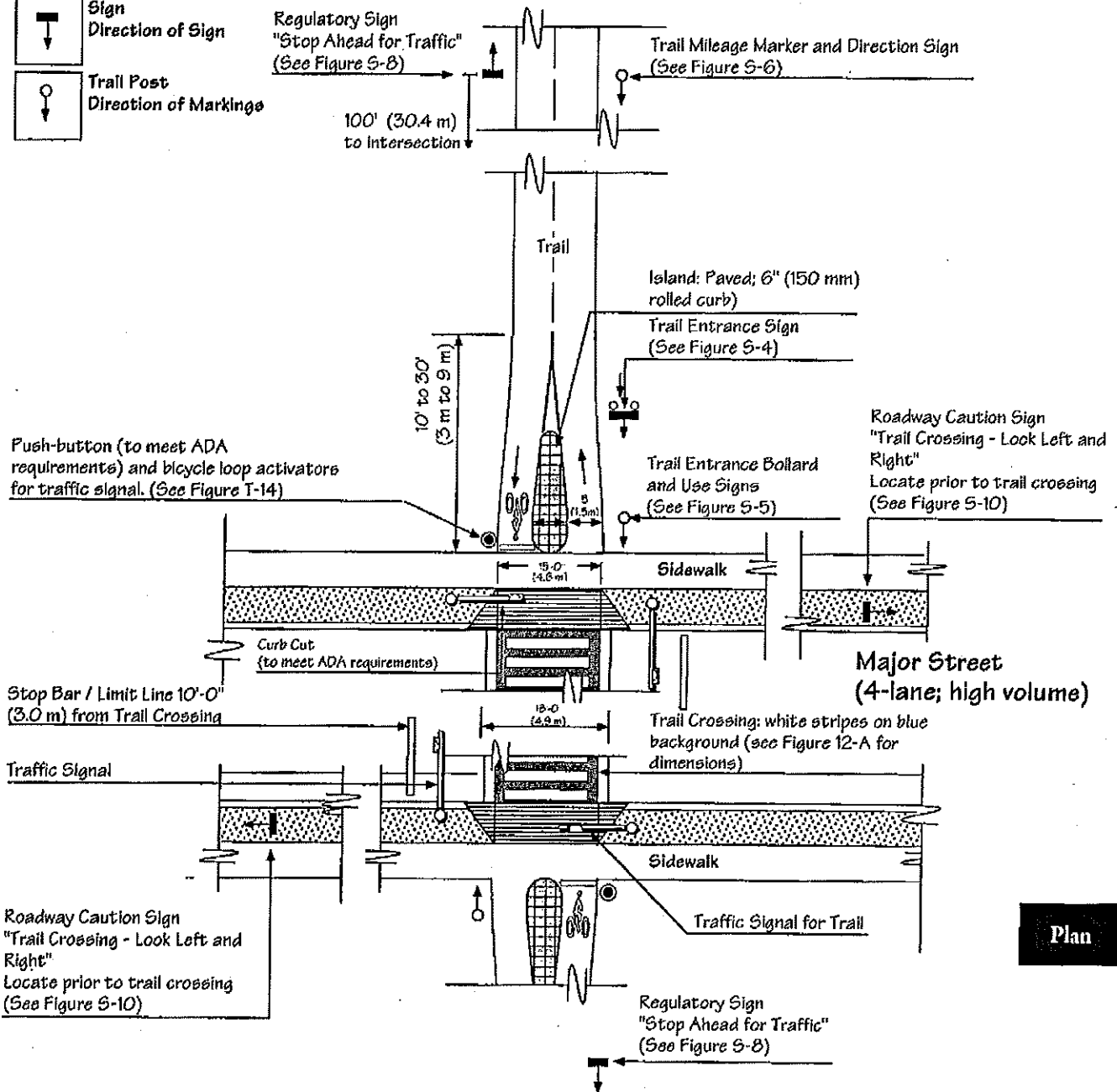
Legend



Sign
Direction of Sign



Trail Post
Direction of Markings



Plan

Related Policies: UD-1.1.5; UD-1.1.6.2; UD-4.16; UD-4.17

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

T-13B Trail / Minor Street Intersection - Not Signalized

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

Legend



Sign
Direction of Sign



Trail Post
Direction of Markings

Regulatory Sign
"Stop Ahead for Traffic"
(See Figure S-8)

Trail Mileage Marker and Direction Sign
(See Figure S-6)

100' (30.4 m)
to Intersection

Trail

Island: Paved; 6" (150 mm)
rolled curb

Trail Entrance Sign
(See Figure S-4)

Regulatory Sign
"Stop"
(See Figure S-8)

10' to 30'
(3 m to 9 m)

Trail Entrance Bollard and
Use Signs
(See Figure S-5)

Roadway Sign
"Caution - Trail Crossing Look
Left and Right"
Locate prior to trail crossing
(See Figure S-10)

Sidewalk

Curb Cut
(to meet ADA requirements)

Minor Street
(low volume)

Stop Bar / Limit Line 10'-0"
(3 m) from Trail Crossing

Trail Crossing
(white stripes on blue background)

Sidewalk

Roadway Sign
"Caution - Trail Crossing Look
Left and Right"
Locate prior to trail crossing
(See Figure S-10)

Regulatory Sign
"Stop"
(See Figure S-8)

Note: on streets where trail has right-of-way, install a 3" to 4" (75 mm to 100 mm) rise in pavement height for entire width of trail crossing

Plan

Elevation

Related Policies: UD-1.1.5; UD-1.1.6.2; UD 4.1.6; UD-4.17

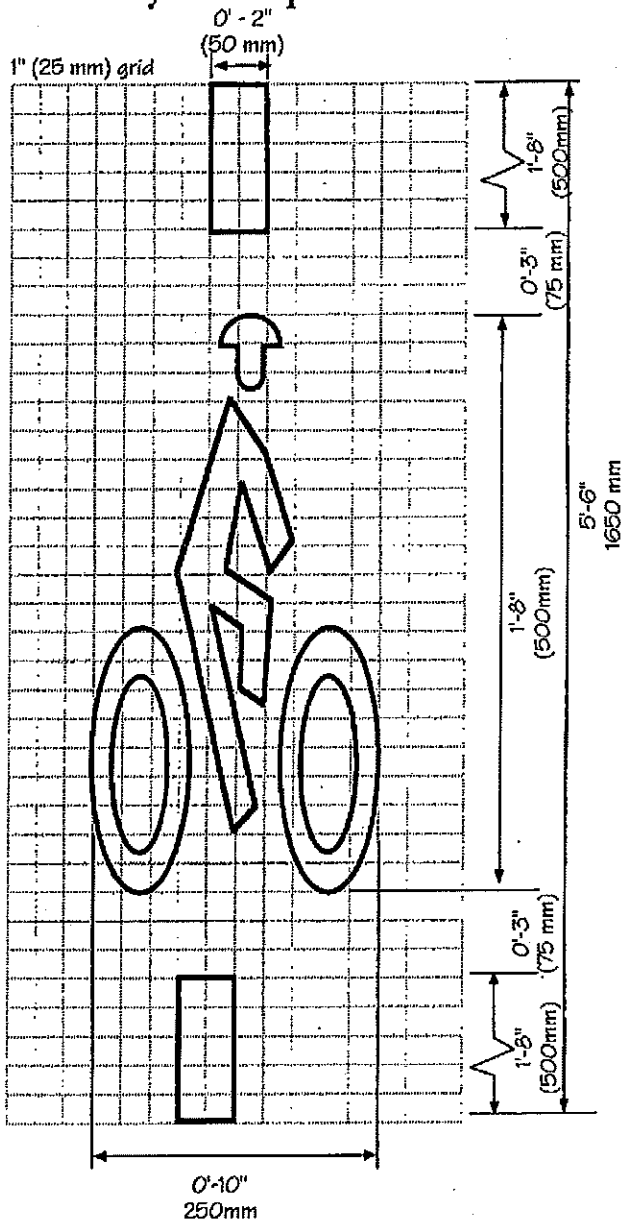
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

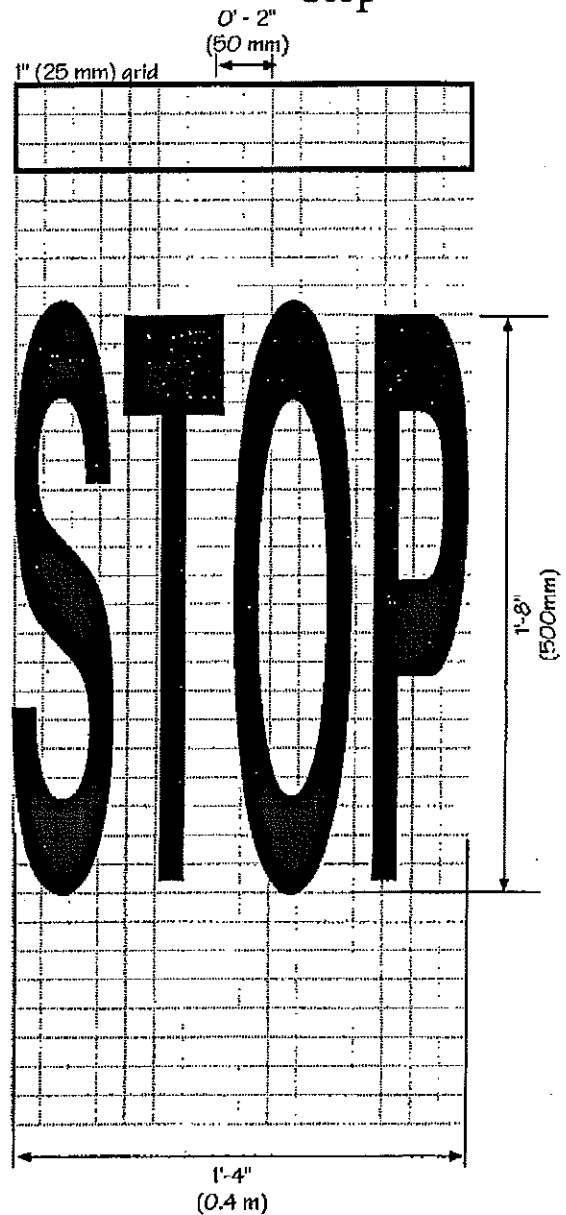
Pavement Markings T-14

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

Bicycle Loop Detector



Stop



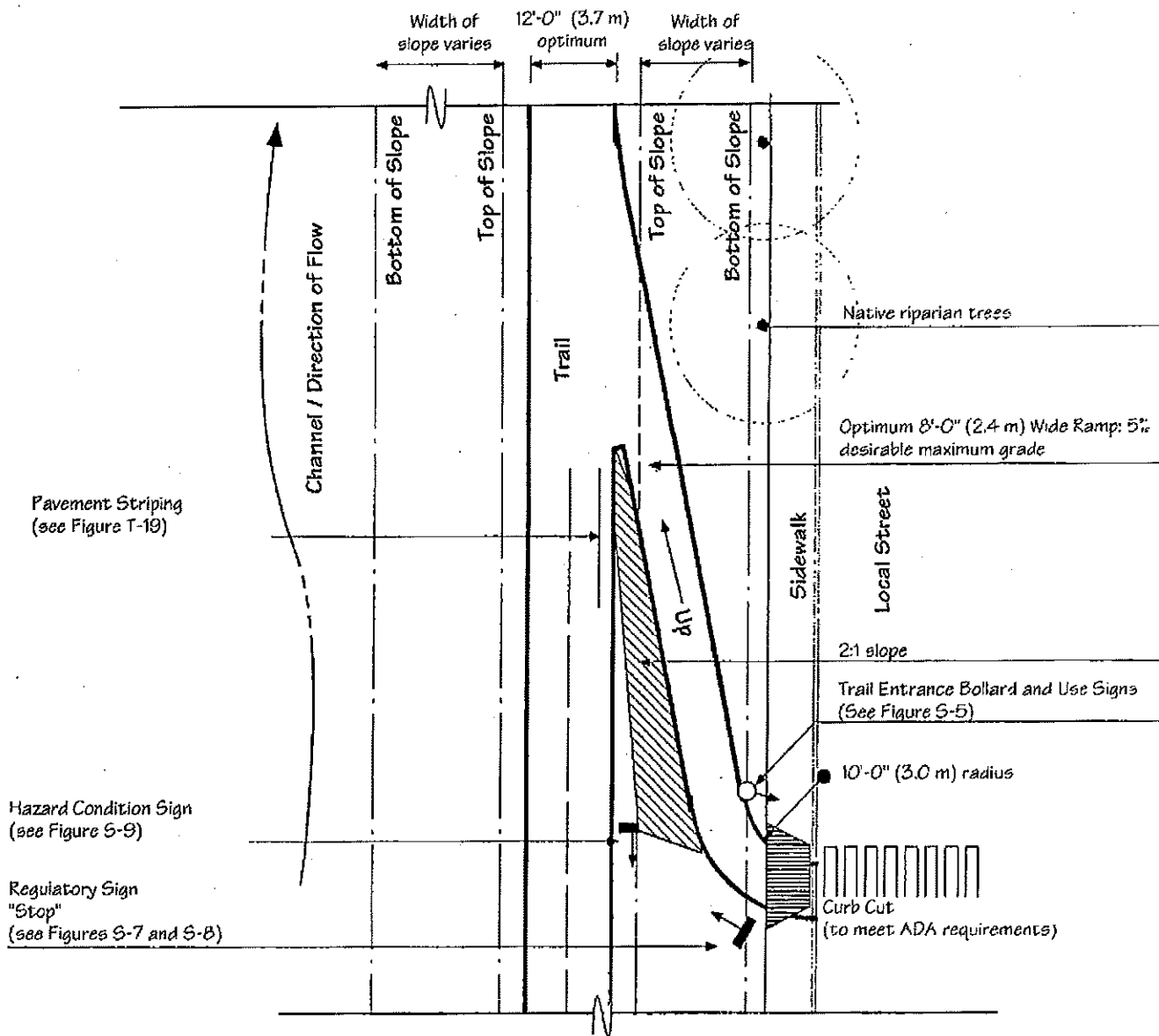
Related Policies: UD -4.11.3; UD-4.17

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

T-15 Plan: Trail on Levee

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



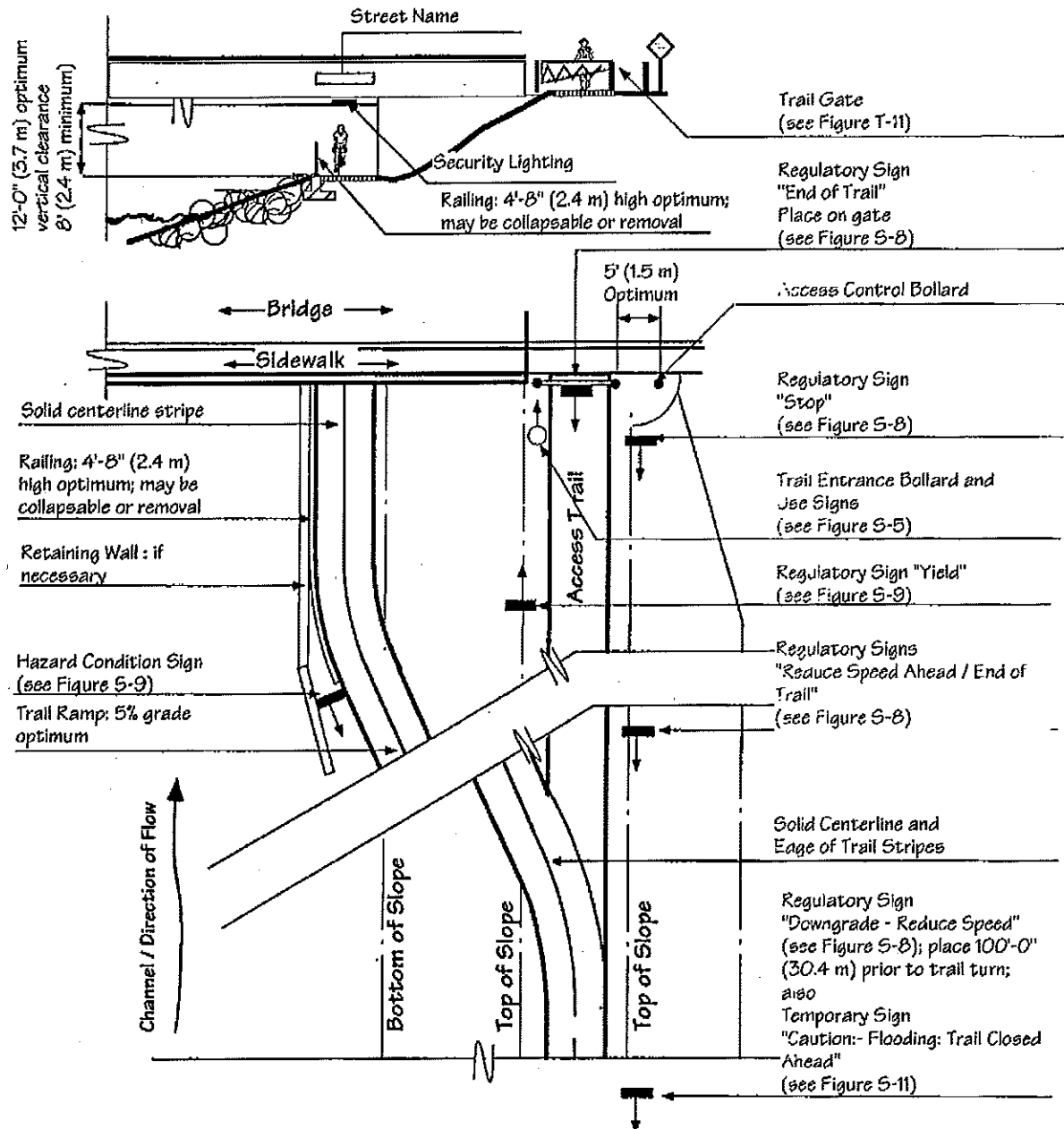
Related Policies: UD-1.3.2.3

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

Plan and Section: Levee Trail Undercrossing T-16

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Related Policies: UD-2.6; UD 4.1.5

Notes

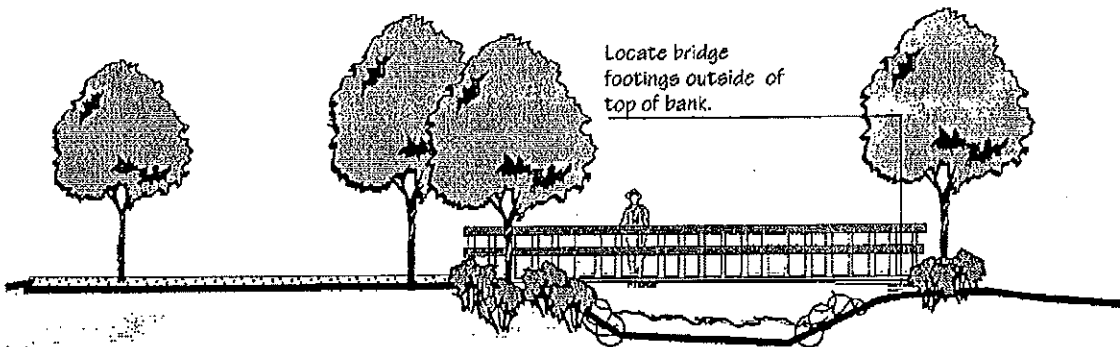
- Trail connections will likely occur on both sides of road bridge

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 15, 1999

T-17 Creek Crossings & Water Quality

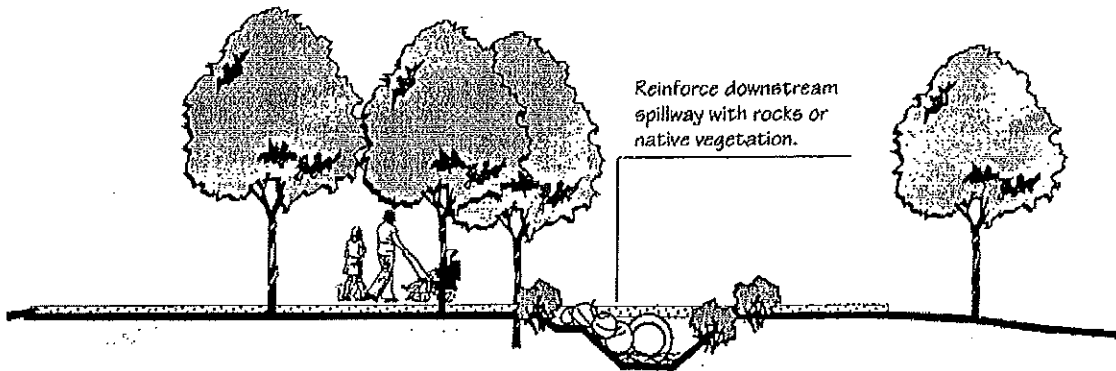
Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee



Locate bridge
footings outside of
top of bank.

Bridge major streams and drainages

A



Reinforce downstream
spillway with rocks or
native vegetation.

Culvert crossings of small streams and drainages

B

Related Policies: UD-1.3.3,14

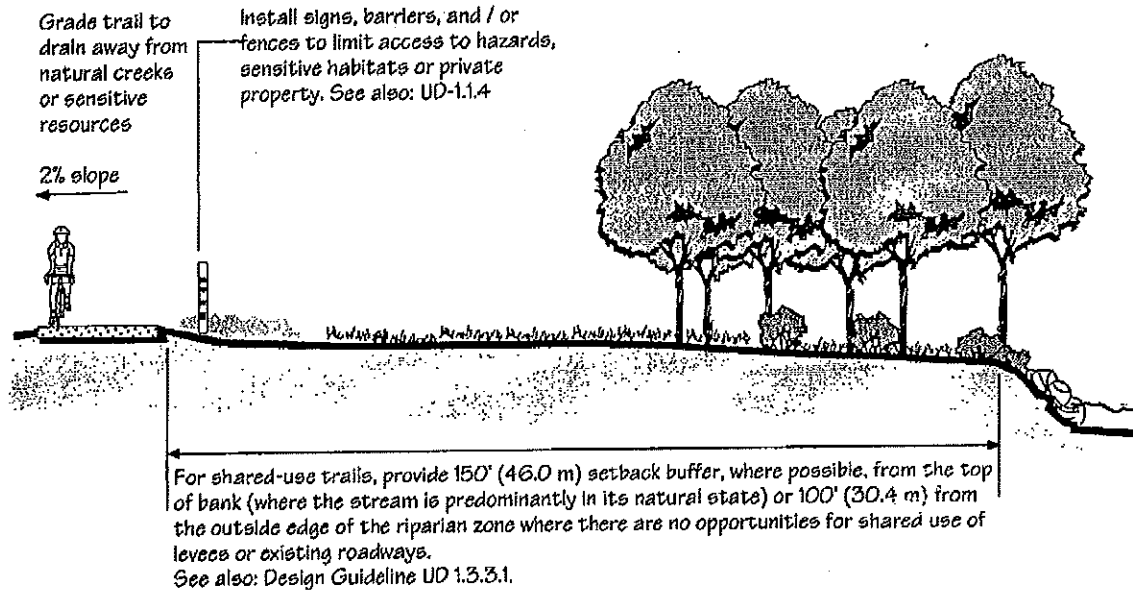
- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management.
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

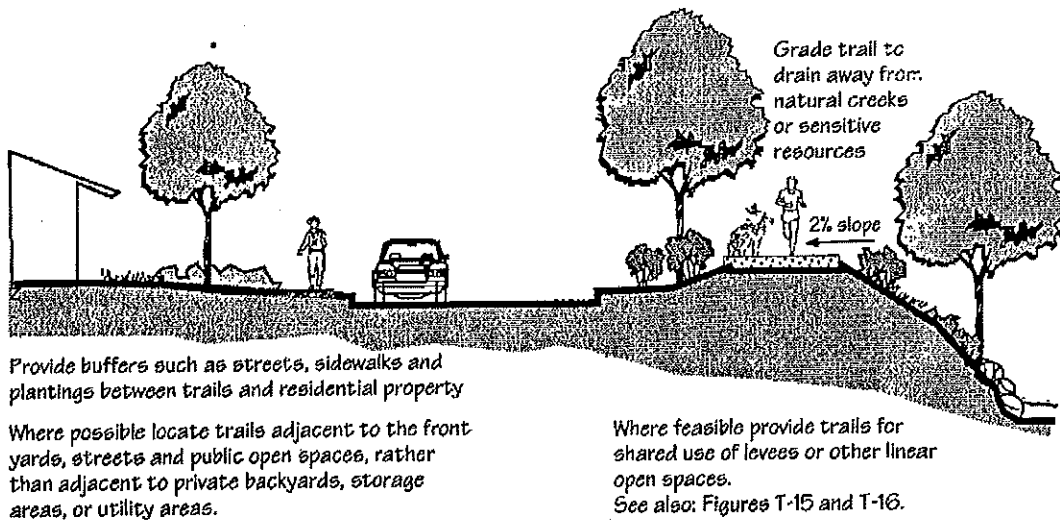
Trail Placement Adjacent to Streams T-18

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trails Committee

Relationship to property lines, environmentally sensitive areas & residences



A



B

See also: Design Guideline UD 2.1, Tables UD-1 and UD-2

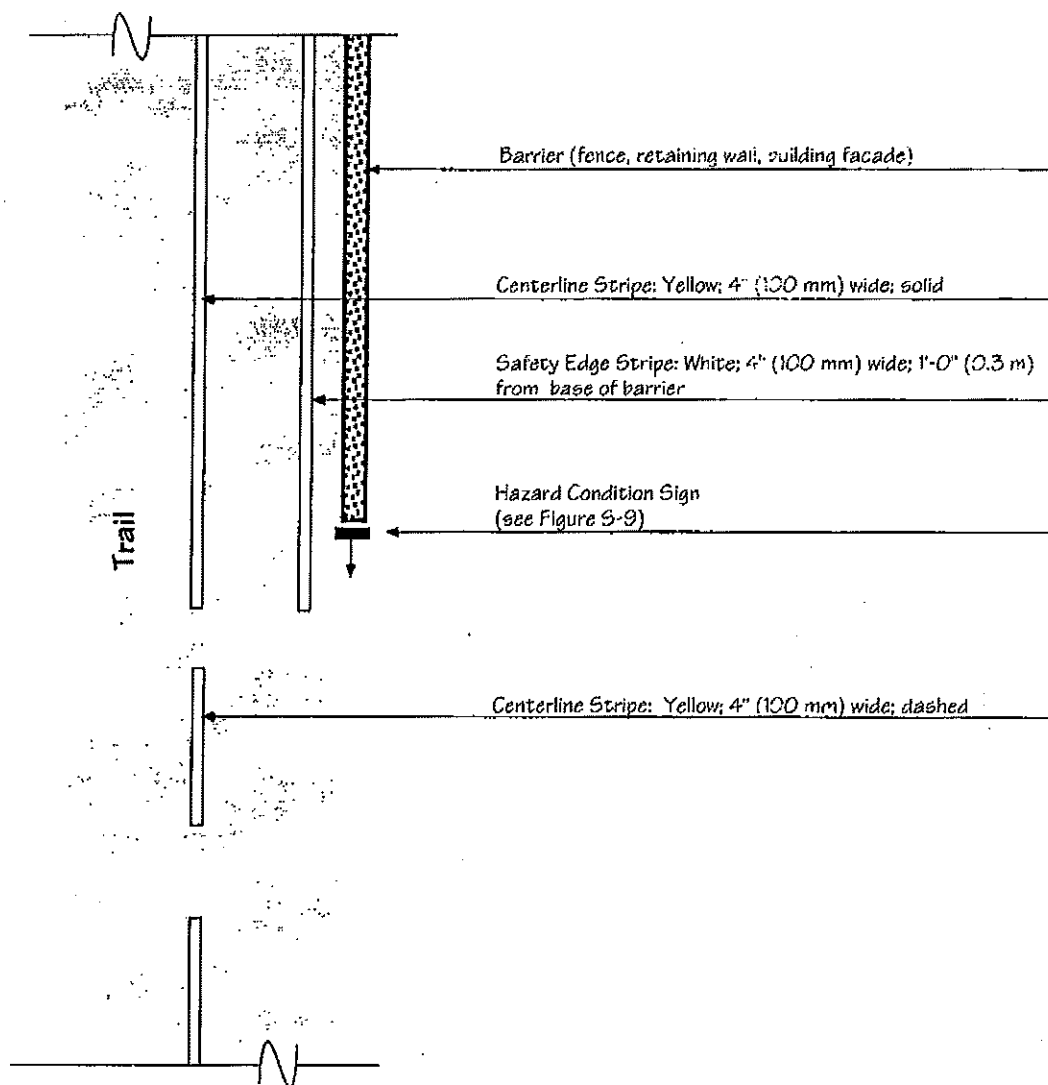
Related Policies: UD-1.1.1; UD-1.3.3.14; UD 1.1.4

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs. California State Department of Transportation.

Final: April 15, 1999

T-19 Pavement Striping Adjacent to Walls and Barriers

Uniform Interjurisdictional Trail Design, Use, and Management Guidelines
Santa Clara County Interjurisdictional Trail Committee



Related Policies: UD-1.1.4; UD-4.11

- "Optimum": The best or most favorable condition for a particular trail situation from the perspective of responsible management
- Reference Also: Highway Design Manual, Chapter 1000 Bikeway Planning and Design; Topic 1003 - Design Criteria; and Topic 1004 - Uniform Signs, California State Department of Transportation.

Final: April 16, 1999